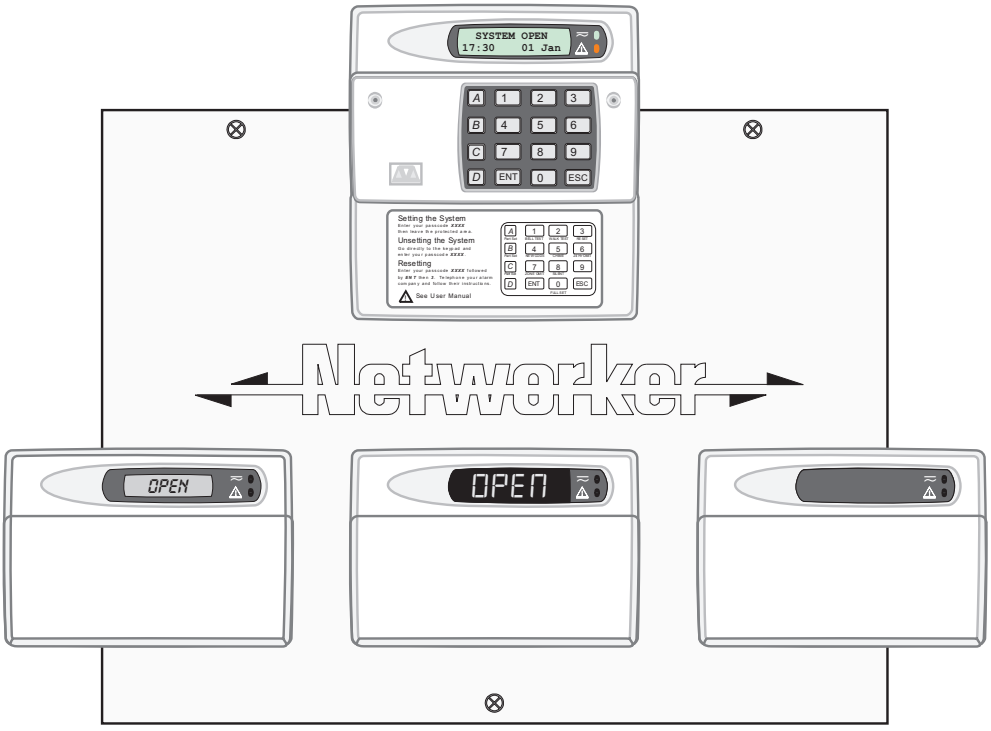
MENVIER SECURITY

TS2500

1040 Zone IntruderAlarm Control System



Quick Guide

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Introduction

This booklet gives a series of worked examples of how to program the TS2500 for various situations. Before studying the examples, make sure you are familiar with the following terms and facilities. (All references are to sections in the TS2500 Installation & Programming Manual.)

Circuit Types. You assign each detector a circuit type so that the control panel can give the appropriate response. Types include, for example, normal alarms, 24hour alarms, fire alarms and several others. For a full list of available types see "Engineer's Menu 1 - Circuit Types".

Circuit Attributes. You can further modify the way the control panel responds to each circuit by assigning a circuit attribute. For example, the "chime" attribute allows you to program the panel to sound a chime tone every time a particular detector is triggered. For a full list of available attributes see "Engineer's Menu 1 - Circuit Attributes".

Wards. A ward is a subdivision of the complete system. Each ward contains a group of circuits that can be set or unset at the same time. The TS2500 provides up to 16 wards, labelled A, B, C up to P. Each piece of equipment on the system must be assigned to a ward.

Examples 1 to 4 on the following pages show how these facilities can be used.

Example 1: Simple Commercial

Figure 1 shows a small installation in a commercial premises.

The door from sales to the outside of the premises has a keypad.

All circuits and keypads are assigned to one ward. The ward has a final exit setting mode, with 60 seconds entry and exit time.

Note how the zones are numbered: since there is only one Xnode connected to network 1 (in this example) then zone numbers run from 1001 to 1008.

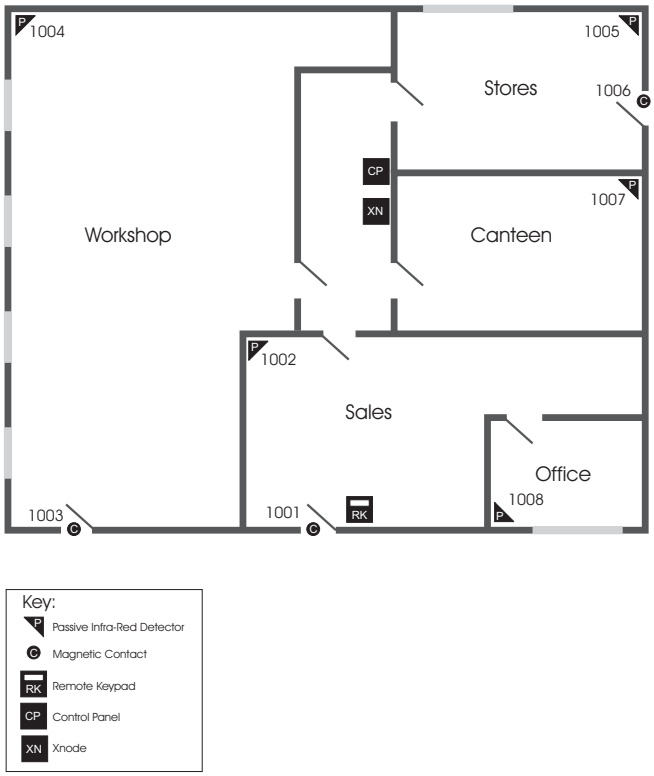


Figure 1. Simple Commercial Example.

Enter Engineer's Passcode

1234

Then key in:	To:	Notes:
1 ENT 4 ENT	Assign circuit types. and attributes. Allocate circuits to ward A.	System can have up to 16 wards. For this example assign all circuits to ward A.
1 ENT 5 ENT	Program system timers.	Each ward must have its own exit and entry delay time. In the example, ward A has entry and exit times of 60s.
1 ENT 6 ENT	Program setting modes.	Each ward must have its own setting mode. In the example ward A has a final exit setting mode.
4 ENT 2 ENT	Program network equipment to ward.	Assign the xnode to ward A. Assign all keypads to ward A.
4 ENT 3 ENT	Program other equipment to ward.	Make sure that all peripherals (for example panel tamper and bell tamper) are assigned correctly, in this case to ward A.

Return to Day Mode.

Example 2: Simple Domestic

This example shows how to program the TS2500 as a domestic system, with three part set levels. Figure 2 shows a plan of a three bedrom house. The purpose of the example is to show the minimum programming needed to create a working alarm system, so the amount of equipment indicated is overspecified for this particular application

Each detector is connected to an individual circuit. All the detectors downstairs and the keypad by the front door are connected to the xnode in the kitchen. The upstairs detectors and keypad are connected to the xnode on the landing. Both xnodes are fitted with internal speakers. The external bell outside the house is connected to the control panel.

The table opposite shows the minimum number of Engineering Menus needed to set up this example as a working system.

To implement the part set facility you should use Menu 1 option 4 to assign the zones as follows:

zones 1002, 1007 and 1008 to Ward A
zones 1003, 1006 and 1001 to Ward C
zones 1004 and 1005 to Ward D
zones 1010 and 1009 to Ward B.

You must then use User Menu 3 option 2 to assign:

Wards D and C to Part Set Group 1 (perimeter set)
Wards A. D and C Part Set Group 2 (night set)
Ward D to Part Set Group 3 (garage set).

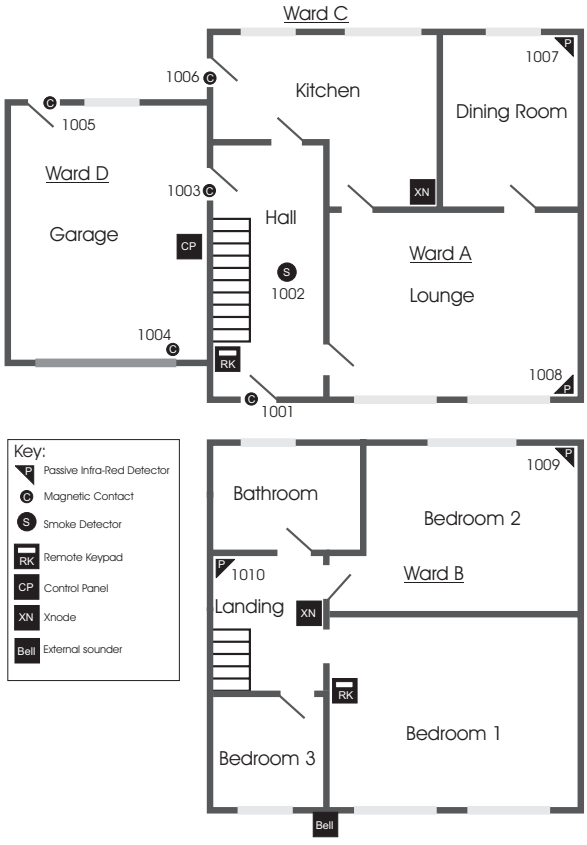


Figure 2. Simple Domestic Installation.

Enter Engineer's Passcode

1234

Then key in:	To:	Notes:
1 ENT 4 ENT	Assign circuit types. Assign circuit attributes. Allocate zones to wards.	System can have up to 16 wards. For this example assign downstairs circuits to ward A and upstairs circuits to ward B etc.
1 ENT 5 ENT	Program system timers.	Each ward must have its own exit and entry delay time. In the example, ward A and B have entry and exit times of 20s.
1 ENT 6 ENT	Program setting modes.	Each ward must have its own setting mode. In the example ward A is has a timed mode, ward B is instant.
4 ENT 2 ENT	Program network equipment to wards.	Make sure that the downstairs xnode, is assigned to ward A, and the upstairs xnode to ward B. Assign the downstairs keypad to ward A and the upstairs keypad to ward B.
4 ENT 3 ENT	Program other equipment to wards.	Make sure that tampers, are assigned to the correct nodes. In the example the panel and bellbox tamper are assigned to ward A and B.

Log Off Engineer Mode.

Enter Master User's Passcode

5678

Then key in:	To:	Notes:
ENT ENT ENT	Enter User Menu 3.	
2 ENT	Program Part set Groups.	Assign ward A to Part set Group 1.

Log Off User Programming Mode.

In a simple example like this it seems unnecessary to assign one ward to one Part Set Group. However, in a larger installation with more Wards you can use the same programming commands to assign several Wards to individual Part Set Groups.

Note that in this example the zone numbers run from 1001 to 1010 with no gaps. This is because the downstairs xnode has a full set of eight detectors.

Example 3. Multiuser System

A landlord has a block of four small industrial units to let. Each unit is fitted with a personnel door and a large vehicle door. At the back of the unit is a small room that can be used as an office. At the end of the block of units is a service room.

The landlord wishes to fit each unit with its own alarm system, operated solely by the tenant. In each unit the installer fits door contacts on both external doors, a panic alarm in the office, a smoke detector in the ceiling and a PIR to cover most of the main area of the unit. A keypad next to the personnel door allows the tenant to set and unset the system. A bell/strobe unit on the outside of the unit provides an alarm. The installer connects all the devices in a unit to a single xnode, fitted inside the unit and connected by cable to the service room.

In the service room the installer fits the control panel, another keypad (for programming the system) and a PIR and door contact to protect the service room.

During programming the installer assigns each unit to an individual ward, A to D, and the service room to Ward E. Note how the zone numbering has gaps in it. This is because each xnode has only five detectors.

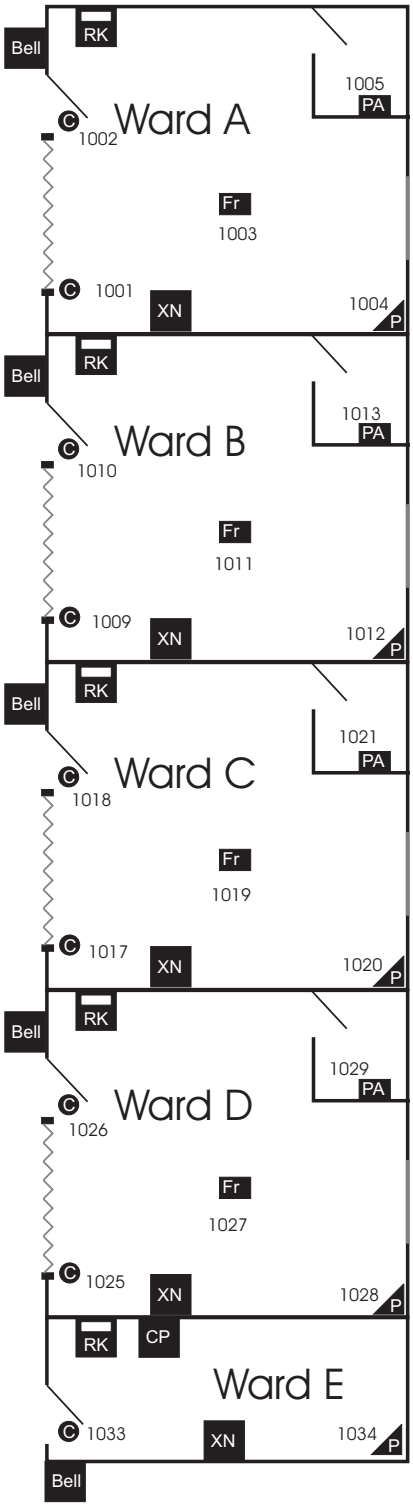
Enter Engineer's Passcode

1234

1 ENT 4 ENT	Assign circuit types. Assign circuit attributes. Allocate zones to wards.	Assign detectors in each unit to respective Ward. Assign detectors in service room to Ward E.
1 ENT 5 ENT	Program system timers.	Each ward must have its own exit and entry delay time. In the example, wards A to D have entry and exit times of 60s.
1 ENT 6 ENT	Program setting modes.	Each ward must have its own setting mode. All wards are programed as final exit.
4 ENT 2 ENT	Program network equipment to wards.	Make sure that eac xnode is assigned to its own ward. Assign keypads to respective wards.
4 ENT 3 ENT	Program other equipment to wards.	Make sure that tampers are assigned to the correct nodes. In the example the panel and service room bellbox tamper are assigned to ward E.

Return to Day Mode.

See also "Ward Sounder Control" on page 6.



Key:

- P — Passive Infra-Red Detector
- C — Magnetic Contact
- PA — Panic Alarm
- Fr — Smoke Detector
- RK — Remote Keypad
- CP — Control Panel
- XN — Xnode
- Bell — Bell/Strobe

Example 4. Foyer Mode

A building owner wants the control panel to arm the reception area when the tenants have set all of wards B,C,D,E,F. The first person into the building in the morning is always the security guard who will only turn off the reception area as he is not permitted to access the offices.

Enter Engineer's Passcode

1234

Then key in:	To:	Notes:
1 ENT 4 ENT	Assign circuit types. Assign circuit attributes. Allocate zones to wards.	Assign detectors: In reception to Ward A, In each office to respective Ward.
1 ENT 5 ENT	Program system timers.	Each ward must have its own exit and entry delay time. In the example, ward A and B have entry and exit times of 60s.
1 ENT 6 ENT	Program setting modes.	Each ward must have its own setting mode.
4 ENT 2 ENT	Program network equipment to wards.	Make sure that xnode are assigned to wards C and E. Assign keypad in reception to ward A.
4 ENT 3 ENT	Program other equipment to wards.	Make sure that tampers are assigned to the correct nodes. In the example the panel and bellbox tamper are assigned to ward A. Assign Wards B, C, D, E and F to "Ward A Foyer Mode".

Log Off Engineer Mode.

Enter Master User's Passcode

5678

Then key in:	To:	Notes:
ENT ENT ENT	Enter User Menu 3.	
2 ENT	Program Part set Groups.	Assign ward A to Part set Group 1.

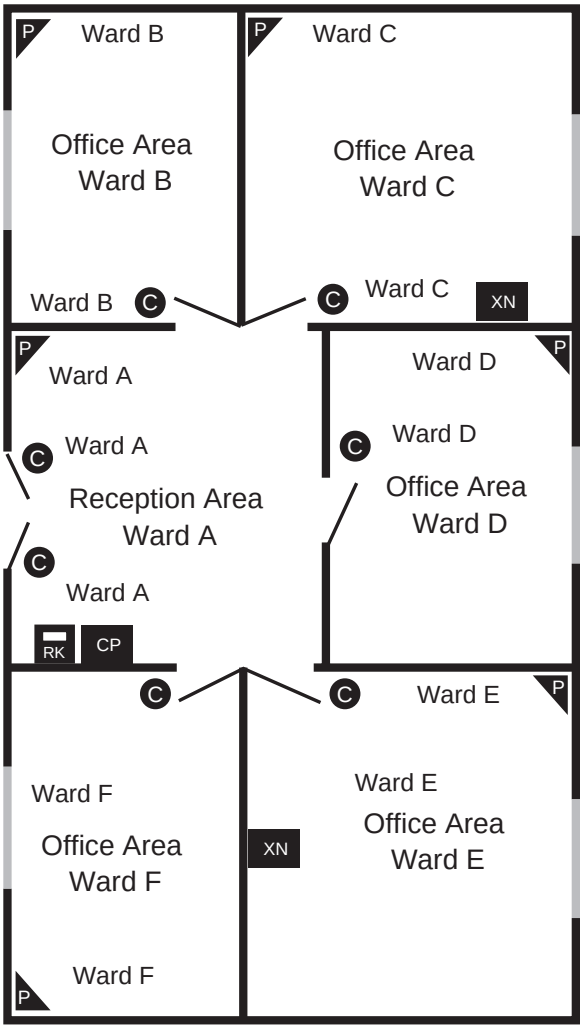
Log Off User Programming Mode.

Operation:

Assuming the system is fully set, at 7.00am the security guard enters the reception area and enters his passcode at the remote keypad in the reception area, to unset ward A (Foyer). When the next user arrives they enter their passcode into the keypad which unsets their own office. This may continue until all offices are unset by their respective users.

At 6.00pm the security guard leaves the premises. He locks the main entrance but does not set the system because one of the staff is working late in the one of the offices. At 7.00pm the user now wishes to leave the premises. They unlock the main entrance door and enter their passcode at the remote keypad.

After leaving and securing the main entrance door the system sets their ward and, because they are the last user to set, also sets ward A (Foyer).



Key:

P Passive Infra-Red Detector

XN Xnode

RK Remote Keypad

CP Control Panel

C Magnetic Contact

Users:

No	Type	Wards
001	Master	A B C D E F
002	Standard Ward	A (Security Guard)
003	Standard Ward	B
004	Standard Ward	C
005	Standard Ward	D
006	Standard Ward	E
007	Standard Ward	F

Figure 3. Foyer Mode Example

Note: Do not assign ward A itself to foyer mode, only the rest of the wards. This means that only the outputs allocated to ward A will trigger.

Ward Sounder Control

If you want to make keypads assigned to individual wards give entry and exit tone for their own wards only then you need to do the following:

1. Set the Ward Sounder Control jumper on each of the keypads to "enabled" (see diagram).

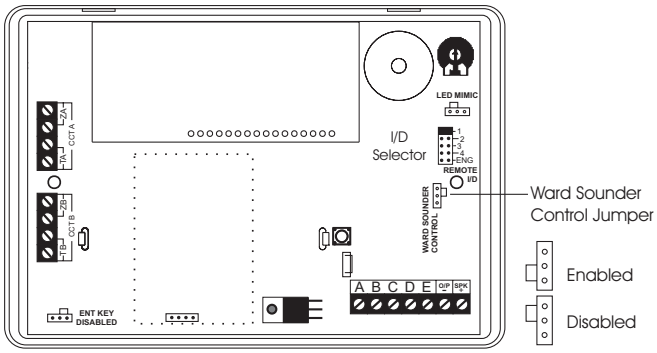


Figure 4. NetLCD Sounder Control Jumper

When the jumper is set to enabled the keypad sounder activates when the panel speaker and the output on the keypad are active at the same time.

2. Use Engineering Menu 4 option 3 to assign the control panel speaker to all wards that need tones from their keypad sounders.

3. Use Engineering Menu 3 option 8 to assign the outputs of the keypads to ward sounder control for the relevant wards.

Internal Digital Communicator.

1. To use the internal digital communicator you must connect a stand alone digital communicator that is only programmed with the central station phone number.

2. Use Engineering Menu 3 option C 9 to set up accounts to wards and program digi channels.

You cannot disable channels on the internal communicator. The only way to do this is to assign channels to an event that is not going to cause an alarm.

Note that if you change any channel output on the internal communicator then you are changing it for every ward.

TSNIB

The TSNIB is a Network Interface Buffer Board for use with the Networker range of control panels. This Interface will allow the connection of remote keypads or nodes, up to a maximum distance of 1km from the Driver Board. It can also be used in situations that require cabling to be run in areas with electrical or radio interference.

Tips

Adding or Removing Equipment

Always remove power (mains and battery) from the system before adding or removing equipment.

Initial Power Up

When you initially power up the system will ask you to confirm the equipment attached to the networks. If the system reports more Lecs than you have actually connected it may be that a remote keypad is not initialised. The control panels sees remote keypads that have not been initialised as Lecs. To initialise a keypad press any of the keys.

Keypads

If you connect a remote keypad to a Network then you lose six zones. The control panel sees a keypad that is directly connected to a Network cable as equivalent to an xnode or ts900 node. All such devices provide zone numbers in blocks of eight. Since the keypad itself can only provide connections for two zones then the remaining six zone numbers cannot be used.

Keypads connected to separate Networks can be used simultaneously. In the same way, keypads connected to separate xnodes do not lock each other out.

Outputs

To toggle outputs on nodes use Engineer's Menu 3 option 9 submenu 6, and leave the selected output on test.

User Codes

If you want a user to set a ward from a keypads that is not assigned to the ward then make sure that you give them a Standard Global or Manager type code.

When such a user sets a ward from a keypad that is not allocated to the ward then the control panel will set the ward instantly.

Fault Finding

The TS2500 has various diagnostic functions to help you in fault finding the system. To access these functions go to Engineer's Menu 3 option 9. The most useful of these functions are number 7 - Confirm Network devices and no 9 + A + [- View Network Devices and Network Errors.

One of the most difficult of faults to find is when the control panel looses communication with an item of remote equipment, for example an xnode. This may be caused by one of the following problems: network equipment faulty, power supply faults, earthing faults, or cabling faults.

1. Use Network Errors to check if you have any data problems. The keypad displays the location of the last device problem, for example:

NETWORK 1 0010
LAST ERROR 2,07

2. Press 0 to reset the error counter.

3. Power down and disconnect the node indicated in the display (2,07 in the example shown above). Re-attach the network cable so that the rest of the newtwork is still connected to the control panel.

4. Re-apply power. The keypads display the "Relearn Required" message. Confirm the new number of network devices connected as described in the TS2500 Installation Manual.

5. Repeat steps 1 and 2 to check wether there are any data errors. If there are no errors then the node you have disconnected is faulty

4. If there are still errors then the problem may be with the previous node.

If you cannot isolate the fault to one item of equipment it is possible that the dc power supply to the remote equipment is low. Starting at the end of the network farthest from the panel put your meter to low DC and connect the black lead to A and the red lead to B. The meter should read at least 12V all along the network line.

If the meter reads less than 12V then you may need to decrease the resistance of the cables by doubling up, or adding a remote power supply.

If the power supply voltage is adequate check for earthing faults. Set your meter to low ac and connect the black lead to earth and the red lead first to A and then to B.

The meter should read no higher than 1V. If the reading is higher then you have ac hum on the dc line. Fit an appropriate filter.

While the black lead is still connected to earth set the meter to low dc. Connect the red lead to A and then to B.

If the meter shows a stable reading greater than about 0.5V then you may have a short to earth. Check the entire length of the cable for wiring faults or damage, for example staples through the cable.

Please note that some power supplies have a grounded printed circuit board. If one of these is connected to your network then you will have earthing problems. We recommend using our TSPS1 and TS519.XB power supplies.

If none of the problems above exist then check the continuity of the cable.

If all else fails then power down the panel and connect a single xnode to the panel on a short length of cable. Power up the panel. The keypads display the "Relearn Required" message. Confirm that only one device is connected, as described in the TS2500 Installation Manual. Check again for network errors. If the keypad still displays network errors then power down again and connect the xnode to another network. Power up, confirm that only one xnode is connnected and check again for network errors. If the errors have gone then the control panel has got a faulty network.

Output Modules

The Output Module provides eight switched negative outputs capable of supplying 100mA each to drive LEDs or miniature relays. You can daisy chain up to 128 Ouput Modules together, connecting the first one to the Ouput Module connector JP2 on the control panel main pcb.

Programming OM Options (Engineers Menu 4 option 7)

There are two sub-options in this command: ward mimic and circuit mimic.

Ward mimic provides a list of ward information that you can send to the output modules. The control panel transmits every item in the list that you say yes to. The first output module picks up the first item transmitted, the second module picks up the second item, and so on.

Circuit mimic provides eight blocks of circuit numbers that you can select. For each block you choose the starting and ending circuit number. A block can cover all the circuits connected to the panel, or a single circuit. The control panel sends all the selected circuits to the output modules remaining after those used by the ward mimic infomation. Each LED corresponds to a circuit.

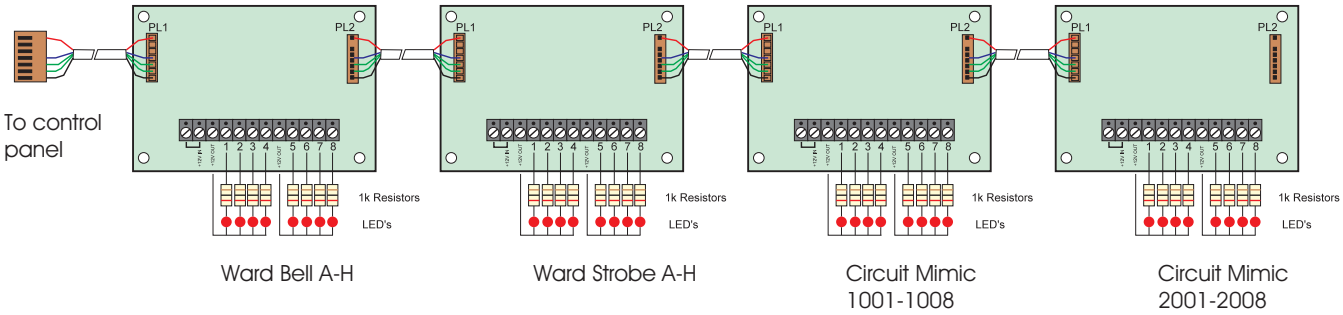
Example

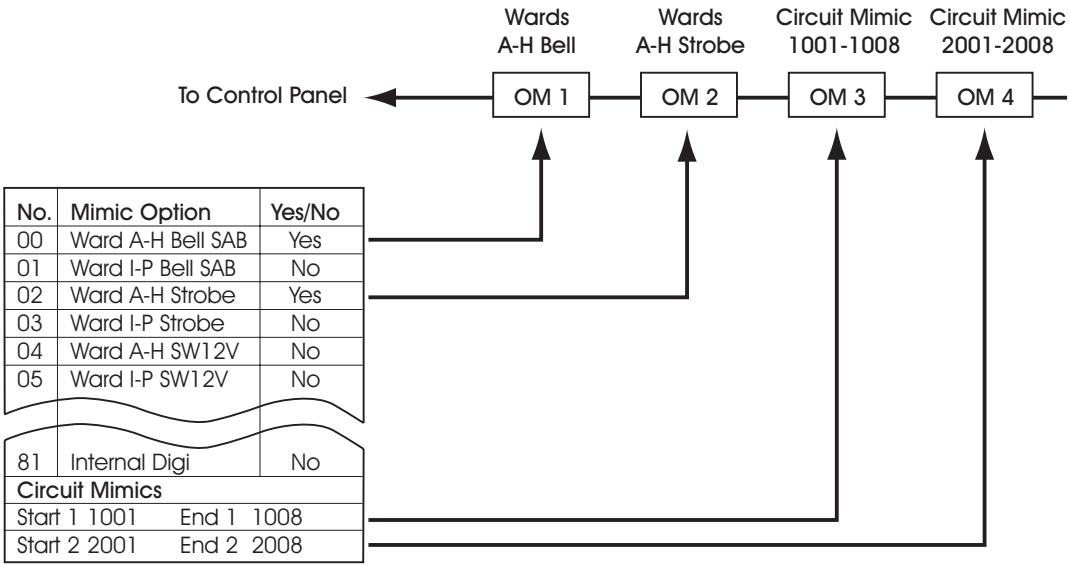
Figure 5 shows an example using four Output Modules. During programming Mimic Options 00 and 02 have been selected as Yes. All other Mimic Options are No. This means that Output Module 1 will respond to Ward A-H Bell and Output Module 2 will respond to Ward A-H Strobe.

In the example two blocks of circuits have been defined. Start 1/End 1 specifies circuits 1001 to 1008 and Start 2/End 2 specifies circuits 2001 to 2008. This means that Output Modules 3 will respond to circuits 1001 to 1008, and Output Module 4 will respond to circuits 2001 to 2008.

Output Modules Connected to XNodes

Each XNode is capable of driving one, and only one, Output Module. When connected to an XNode an Output Module mimics the eight circuits of that XNode, and no others.





No.	Mimic Option	Yes/No
00	Ward A-H Bell SAB	Yes
01	Ward I-P Bell SAB	No
02	Ward A-H Strobe	Yes
03	Ward I-P Strobe	No
04	Ward A-H SW12V	No
05	Ward I-P SW12V	No
81	Internal Digi	No
Circuit Mimics		
Start 1 1001	End 1 1008	
Start 2 2001	End 2 2008	

Figure 5. Output Mocule Example